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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/756,991      | 01/14/2004  | Cressie E. Holcombe  | 25645-30            | 3721             |

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Joseph T. Guy, Ph.D.  
Nexsen Pruet Adams Kleemeier,LLC  
PO Drawer 10648  
Greenville, SC 29603-0648

EXAMINER

MIGGINS, MICHAEL C

ART UNIT PAPER NUMBER

1772

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/756,991

**Applicant(s)**

HOLCOMBE ET AL.

**Examiner**

Michael C. Miggins

**Art Unit**

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

#### **REJECTIONS WITHDRAWN**

1. All of the rejections set forth in the non-final rejection of 1/3/06, pages 2-4, paragraphs 3-10 have been withdrawn.

#### **REJECTIONS REPEATED**

2. There are no rejections repeated.

#### **NEW REJECTIONS**

##### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Economy et al. (US 3668059).

Economy discloses a graphite capsule/vessel for producing boron nitride which has a cross-sectional area that allows reaction contents to be uniformly heated (since a tube is disclosed) in order to yield boron nitride in a uniform consistency of crystallinity and purity and allows the reaction gaseous products to readily evolve (since a continuous slow current of nitrogen is passed through the chamber thus allowing contents to evolve and pass through with the nitrogen) (column 3, lines 41-72)

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Economy et al. (US 3668059) in view of Taylor (US 3058809).

Economy does not disclose wherein the cross-sectional area of the vessel is in the range of 10 to 115 sq. inches.

Taylor discloses wherein the cross-sectional area of the vessel is in the range of 10 to 115 sq. inches (since the cross sectional area will be 44 sq. inches, column 8, lines 39-49) (applies to instant claim 6) for the purpose of providing BN of higher quality.

Therefore it would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided wherein the cross-sectional area of the vessel is in the range of 10 to 115 sq. inches in the vessel of Economy in order to provide BN of higher quality.

With regard to claims 2-3 which recite a thickness, it has been found that finding the optimum workable range or value for a result effective variable, absent clear and convincing evidence of an unexpected result, is obvious and well within the level of one of ordinary skill in the art (MPEP 2144). It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided the recited thickness in order to provide lower materials and costs without destroying the vessel.

Claims 4-5 recite a size for the opening. Taylor discloses a size of  $\frac{1}{2}$  an inch for the opening. It has been found that finding the optimum workable range or value for a result effective variable, absent clear and convincing evidence of an unexpected result, is obvious and well within the level of one of ordinary skill in the art (MPEP 2144). It would have been obvious to one of ordinary skill in the art at the time applicant's invention was made to have provided the recited size for the opening in order to allow easier evolution of gasses, ease in temperature readings and ease of using the plunger.

#### **ANSWERS TO APPLICANT'S ARGUMENTS**

7. Applicant's arguments filed 4/13/06 have been considered but are moot in view of the new grounds for rejection set forth above.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Miggins whose telephone number is 571-272-1494. The examiner can normally be reached on 1:00-10:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1772

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MCM  
June 26, 2006

Michael C. Miggins  
Primary Examiner  
Art Unit 1772

A handwritten signature in black ink, appearing to read "Michael C. Miggins", with a stylized flourish at the end.